

December 20, 1972

Memo to: Dan Neal  
Tom Haggarty

From: Ron Devitt

Subject: Pand Oreille Mines and Metals

On November 16, 1972, I conducted a survey on the tailings pond at Pand Oreille Mines and Metals near Metaline Falls.

Composite samples were collected:

1. At the headworks.
2. From the discharge pipe to the pond.
3. From the effluent.

Between points 1 and 2, hoses are used to bleed off waste water. The slurry is drawn off in a manner that the solids which settle quickly, build up the perimeter of the pond. The main volume of water (total usage 1380 gpm) discharges from the end of the pipe.

On the day of survey, the effluent was very clear. The main parameters which merit attention were pH and cyanide. Field pH (minimum 8.2) data obtained with a Analytical Instrument's meter were significantly higher than the laboratory value (7.5) of the effluent composite. Evidently during storage and shipping, the pH changed. Although there are contradictory opinions on the toxicity of cyanide, the value of .05 ppm is high enough to be of concern. Stipulation should be made in the waste water discharge permit to govern this parameter.

The lab results on the effluent and the discharge from the pipe (numbers 1 and 2) are somewhat questionable. Because of the high level of settleable solids, it would have been difficult to obtain a representative portion.

RD:pt  
590200

# DATA REPORT FORM

Location: Pend Oreille Mines and Metals

Field Results	Max.	Min.	Mean	Median
Influent (#1)				
Temperature (°C)	11	11	---	---
pH	9.4	8.7	8.8	8.8
Conductivity (µmhos/cm)	350	250	300	300
Settleable Solids	375	325	300	350
Discharge from Pipe (#2)				
Temperature (°C)	9	9	9	9
pH	9.2	8.7	8.9	8.9
Conductivity (µmhos/cm)	350	250	300	300
Settleable Solids	425	375	390	375
Final Effluent (#3)				
Temperature (°C)	6	6	6	6
pH	8.5	8.2	8.4	8.4
Conductivity (µmhos/cm)	350	300	340	350
Settleable Solids	0	0	0	0

**Location:** Pend Oreille Mines and Metals

[illegible]

# STATE OF WASHINGTON DEPARTMENT OF ECOLOGY

WATER QUALITY LABORATORY

## DATA SUMMARY

ORIGINAL TO: W. R. K. & S. T. ....  
COPIES TO: .....  
.....  
LAB FILES: .....  
.....

Source Pond (Reilly Mine)

Collected By R D

Date Collected 11 16 72

Goal, Pro./Obj. 3 2 3

Log Number:	72-450	452	453										STORET
Station:	RAW INF 66.10	DISC TC 66.1	EFF										
pH	9.4	9.4	7.5										
Turbidity (JTU)	1250	700	50										0070
Conductivity (umhos/cm) @ 25°C	360	345	390										00095
COD													00340
BOD (5 day)													00310
Total Coliform (Col./100ml)													31504
Fecal Coliform (Col./100ml)													31616
NO3-N (Filtered)													00620
NO2-N (Filtered)													00615
NH3-N (Unfiltered)													00610
T. Kjeldahl-N (Unfiltered)													00625
O-PO4-P (Filtered)													00671
Total Phos.-P (Unfiltered)													00665
Total Solids													00500
Total Non Vol. Solids													
Total Suspended Solids													00530
Total Sus. Non Vol. Solids													
SULFATES	70	70	70										
CYANIDE		-	0.05										
LEAD	0.5	0.5	ND										
ZINC	472	42	0.09										
COPPER	3.8	0.3	0.1										

Note: All results are in PPM unless otherwise specified. ND is "None Detected"  
Convert those marked with a \* to PPB (PPM X 10<sup>3</sup>) prior to entry into STORET

NOTE: Metals R 5015 6 51452 P 60000

Summary By Stephen & R. B. Date 1 6 2